

SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1399.—VOL. XXXII.]

LONDON, SATURDAY, JUNE 14, 1862.

[WITH] STAMPED... SIXPENCE.
[JOURNAL] UNSTAMPED. FIVEPENCE.

ATON'S PATENT MINERAL BORING
AND WINDING MACHINE.
MANUFACTURED BY
WILLIAM DIXON, GOVAN BAR IRONWORKS, GLASGOW.

AGENTS IN LONDON,
CAMPBELL BROTHERS, CALDER AND GOVAN IRON WHARF,
WILLIAM STREET, BLACKFRIARS.



Number of these boring machines are at present working in the neighbourhood of

at less than half the usual cost for boring, and with three times the speed.

ELLIS'S PATENT BRIDGE RAIL,
NEW SWINDON IRONWORKS, WILTS.

Illustration of Ellis's Patent Bridge Rail, showing a cross-section of the rail and a view of the rail installed on a bridge.

Advantages claimed by this rail over others are:—

Having a flat or solid surface its whole breadth to bolt down to the timbers (see A).

The impossibility of its collapsing, as is the case with all other bridge rails (see B).

It is perfectly rigid. The bolts, therefore, remain firm in the timber till the

effecting a sawing in the timbers of from 50 to 100 per cent., as there is no illa-

tion in the bolts and splintered by their shifting, as is shown in section B.

The shape of it being rolled at a less weight to the yard, without dimi-

nishing its strength or durability.

Who have pronounced it the best that has been produced. It carries the palm

over all other bridge rails at 62 per yard is sufficiently strong to carry the heaviest engine

over the Western Railway.

THOMAS ELLIS, NEW SWINDON IRONWORKS, WILTS.

TENT PLUMBAGO CRUCIBLES.—

Crucibles manufactured by the PATENT PLUMBAGO CRUCIBLE COMPANY

have been in successful use for many years by some of

the largest ENGINEERS, BRASSFOUNDERS, and RE-

FINERS in this country and abroad. The great SUPERIO-

RITY of these melting pots consists in their capability of melt-

ing on the average 35 to 40 pourings of the most difficult metal

and a still greater number of the ordinary characters, some of

them having actually been worked for the EXTRAORDINARY

number of 96 heats. They are unaffected by change of tem-

perature, never crack, and become heated much more rapidly than

any other kind, thereby SAVING more than FIFTY PER

CENT. in fuel, time, and labour. Lasting as they do for such a

length of time, the saving of waste is also very considerable.

The company have recently introduced a CRUCIBLE SPE-

CIALLY ADAPTED for MALLEABLE IRON MELTING, the

working of which has proved to be about seven days.

STEEL MELTING are also made, which have nearly 1½ ton of

steel per ton of steel fused.

The Patent Plumbago Crucible Company likewise manufacture and import clay cruci-

bles, pottery, &c., stoves, &c., all descriptions of fire-standing goods

and apparatus, &c., apply to the Patent Plumbago Crucible Company, Battersby

AYTOUN'S PATENT SAFETY CAGE AND HOIST.

CHANGE OF LICENSE FEE.
The present LOW RATE OF LICENSE FEE, £1 per cage, will be CONTINUED till the CLOSE of the INTERNATIONAL EXHIBITION, where facilities will be afforded to parties interested to assure themselves of the value of the invention. A FULL-SIZED SAFETY CAGE will be there EXHIBITED IN ACTION, and may be subjected to whatever tests parties may desire. Also, a VARIETY OF MODELS, SHOWING THE ADAPTATION of the SAFETY PRINCIPLE to CAGES of VARIOUS CONSTRUCTIONS, and to GUIDE RODS of IRON as well as of WOOD.

Parties having thus had the opportunity of assuring themselves of the trustworthiness of the safety cage, and of providing themselves with all the licences they may require at a low figure, will, at patentee's proposal, immediately on the close of the Exhibition, to raise the license fee to £6, £7, and £8 per cage, according to the weight it is calculated to carry. This will enable him to set on foot an active canvas for the introduction of the safety cage into every mining district of the kingdom, a measure plainly impossible with the present low fee of £1.

The patentee has also the satisfaction of saying that he has now made arrangements with the well-known firm, Messrs. James Tod and Son, engineers, Edinburgh, which will enable him to furnish safety cages, calculated to carry from 12 to 15 cwt. of coal or ironstone, at £10 each, and other sizes in proportion. As the carriage of a cage by rail to the central parts of England does not exceed 10s., the cage may be delivered in almost any locality for a sum not exceeding 10s. exclusive of the license fee, which at present is only £1. Coal and ironmasters, therefore, would do well, at this time, to provide themselves with one, which, on being tried in their pits and found to answer, would serve as a model for making others. By sending the order through the patentee, they will have the advantage of his personal superintendence.

To those who prefer getting them made on their own premises, working drawings or models will be sent, which will enable any ordinary workman to construct the safety cage easily.

In view of any further attempt of the Legislature to make the use of safety cages imperative, it would seem advisable to secure licenses at the present low rate for as many as are required.

Apply to the patentee, ROBERT ATTOUN, 3, Fettes-row, Edinburgh.

PATENT SAFETY FUSE.—The GREAT EXHIBITION PRIZE MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH, DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.

Address, BICKFORD, SMITH, DAVEY, and PRYOR, Tuckernall, Cornwall.

BASTIER'S PATENT CHAIN PUMP, APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, MARINE, FIRE, &c.

J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by me:—

1.—It utilises from 90 to 92 per cent. of the motive power.

2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.

3.—It occupies a very small space.

4.—It raises water from any depth with the same facility and economy.

5.—It raises with the water, and without the slightest injury to the apparatus sand mud, wood, stone, and every object of a smaller diameter than its tube.

6.—It is easily removed, and requires no cleaning or attention.

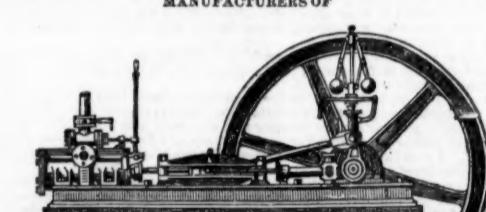
A mining pump can be seen daily at work, at Wheal Concord Mine, South Sydenham, Devon, near Tavistock; and a shipping pump at Woodsore Graving Dock Company (Limited), Birkenhead, near Liverpool.

J. U. BASTIER, sole manufacturer, will CONTRACT to ERECT his PATENT PUMP at HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors and others, for the USE of his INVENTION.

OFFICES, 47, WARREN STREET, FITZROY SQUARE.

London, March 21, 1859. Hours from Ten till Four. J. U. BASTIER, C.E.

MESSRS. E. PAGE AND CO., VICTORIA WORKS, BEDFORD, AND LAURENCE POUNTNEY PLACE, CANNON STREET, LONDON MANUFACTURERS OF



HIGH PRESSURE STEAM ENGINES, from 2½ to 30 horse power, and upwards, adapted for MINING and GENERAL PURPOSES. Prices and full particulars sent on application.

CLAYTON, SHUTTLEWORTH, AND CO., AGRICULTURAL AND GENERAL ENGINEERS, LINCOLN, and 78, LOMBARD STREET, LONDON.

MANUFACTURERS OF

PORTABLE and FIXED STEAM ENGINES,

Which are adapted for every purpose to which steam-power can be applied. When intended for winding they are fitted with reversing link motion and requisite gearing. The portable engines are easy of removal from place to place, and may be set to work immediately on arrival.

COMBINED THRASHING MACHINES,

Which dress the corn ready for market at one operation.

GRINDING and MORTAR MILLS,

SAWING MACHINERY,

PUMPS for IRRIGATION and

MINING PURPOSES.

Full particulars and estimates supplied on application to CLAYTON, SHUTTLEWORTH, and CO., as above.

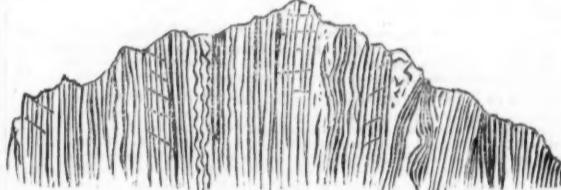
ROCKS AND MINERALS—MINES AND MINING—No. IX.

BY EVAN HOPKINS, C.E., F.G.S.

THE NORMAL VERTICAL STRUCTURE OF THE CRYSTALLINE ROCKS: THE GNEISS, CHLORITIC, AND ARGILLACEOUS SLATES.

These are highly important rocks, very little understood by geologists, but should be well examined *in situ* by all miners and mining engineers, inasmuch as they are the most prolific in minerals, and especially in gold and silver ores, of any other rocks, in every part of the world. Indeed, wherever they are exposed and uncovered by sedimentary rocks gold may be detected in them, not only in the enclosed quartz veins, but also in the slates. It is the gradual disintegration of the exposed edges of these slate bands, and their enclosed nodules of quartz, that produces the great auriferous deposits found in different parts of the world. The compact and the laminated granites also produce gold in combination with silver and copper ores, but I believe 90 per cent. of the gold obtained is the product of the primary slates, with a vertical structure, as represented by—

FIG. 6.



Although the structure, especially in depth, is always more or less vertical, yet the exposed parts frequently lean either to the right or to the left, for the want of lateral support, and thus lead the uninitiated astray, and give rise to those erroneous zig-zag, or undulating, sections commonly represented at lectures on geology. As already noticed, the generality of geologists, and those who acquire some smattering of the science from books, are under the impression that slate rocks must be beds curled or turned-up on their edges, as they have no idea of a semi-crystalline action capable of producing or forming vertical bands of rocks. Practical men should beware of assumptions, and always study the character of rocks in nature. There is such a propensity on the part of students, and those who are now and then deputed to inspect and describe the character of new districts, to make things pleasant by representing rocks according to the accepted theory, rather than their actual appearance, that their reports become of no practical value, and cannot be depended upon. However, I am happy to state that a change is taking place, and, according to the observations made by the President of the Geological Society at the last meeting, geologists will shortly have to accept the views which I have so long maintained on the character of the primary rocks, in spite of so many years of opposition. This was expressed so emphatically from the chair, in the presence of the most eminent English and continental geologists, that there can be no doubt as to the truth of the prediction "that the science of geology was on the eve of a great revolution."

The following extracts will further corroborate what I have stated—that all the gold-bearing rocks have a vertical structure, and of similar crystalline composition in all parts of the world:—

In South America, the gold-bearing rocks are composed of vertical and meridional bands of gneiss, chloritic, and mica-schist, enclosing bands and veins of porphyry and quartz.

In Veraguas the gold is found in vertical chloritic argillaceous slates.

In Virginia, the gold-bearing bands are vertical talcose and quartzose slates, bearing 10° east of north.

In Nova Scotia, the gold veins are enclosed in vertical chloritic slates.

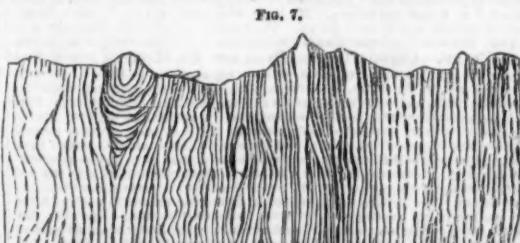
In California, the auriferous gravel and clay lie over the edges of the slate rocks. The gold-bearing rocks are composed of chloritic and mica-schist slate, running on their edges in a north and south direction for hundreds of miles.

In the Ural Mountains, they have a meridional direction, and are of the same composition.

In Australia, the vertical structure and the meridional bearing of the gold-bearing rocks are so well known amongst the gold diggers as not to require further comment. The same conditions hold good in Wales. The auriferous quartz of the Clogau and the Cambrian Mines are enclosed in the vertical structure of the crystalline rocks, and not in the old fossiliferous beds, as incorrectly represented. I do not mean to state that it is impossible a gold vein should be protruded into a superincumbent bed, but I never found gold in a fossiliferous rock in any part of the world.

I believe gold will yet be discovered (although probably in small quantities) in the chloritic and quartzose slate of Scotland, Isle of Man, and in Ireland, especially in Donegal. The following section, taken in Donegal, represents the ordinary appearance of gold-producing rocks:—

FIG. 7.



Although the bands of rocks in Ireland and Scotland do not run in the meridian, as in the Ural, Australia, South America, and California, nevertheless they have a general north-easterly bearing, like those of the United States, Canada, and Nova Scotia, and are, therefore, well worthy of further explorations.

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

MELBOURNE, APRIL 26.—Everything connected with our gold fields has been unusually dull during the greater part of the past month. The continued drought has told heavily on the yields of all our gold fields, there being a deficiency of yield of 24,219 ozs., the respective quantities being for the corresponding month of 1861, 141,079 ozs., and for 1862, 116,860 ozs. This return enables us to show that in the present year, up to the 18th inst., there has been a falling off in the yield of gold, as compared with the same period of last year, of 100,434 ozs., valued at 401,736*l.*, and equivalent on the year to near 1,300,000*l.* This serious deficiency is due not so much to any falling off in the productiveness of our gold fields as to the great decrease in the number of miners engaged upon them, caused by the successive and extensive rushes to the New Zealand and New South Wales gold fields. Of the 15,000 people now at the Lochean diggings, in New South Wales, only a few hundreds are obtaining gold; but those who have succeeded in finding the gutter have realised a rich harvest. Large numbers of those on the field are shepherding their claims, and are waiting the result of the course the lead is likely to run before sinking. The long wished-for rain has come at last to gladden the heart of the miner, and will enable many to wash out the gold from the heaps of dirt piled up during the past three months' drought. A considerable improvement is reported in the yield of the Ingewood reef during the past few days. Three lots of stone from one claim on Maxwell's, in all 98 tons, produced 285 ozs. 11 dwt., 15 grs., and a small lot of 4*1/2* tons from the Morning Star reef gave 64 ozs. of gold. In the mining district of Sandhurst the reefs continue more or less productive. The Catherine Reef United Company produced last week 428 ozs. The various claims on the Victoria Reef continue to yield well, good stone having been struck in Try-Me-Well claim, at a depth of 30 ft. The Devonshire reef has also been highly productive, having produced stone yielding 5 ozs. per ton. Occasional nuggets are found in the gullies of Old Bendigo, one weighing 37 ozs., turning up in Robinson's Crucifix Gully. We have little to notice in the Castlemain district. A new reef has been discovered behind the camp, which gives fair promise of being remunerative. In the Ararat district a rush has taken place to the Great Western, which promises to be of some importance. The sinking is about 30 ft., and there is a regularly-defined lead, which yields an average of 1*1/2* oz. to the load. Two distinct leads have been opened in the neighbourhood of Frying Pan Reef, Honeysuckle. The first is a well-defined gutter; the yield ranges from $\frac{1}{2}$ to 1 oz. of gold to the load, and several nuggets have been found from 1 to 6 ozs. The prospectors have driven across 20 ft. each way, all level on the bottom of the gutter the whole 40 ft., and showing gold the whole way. The diggings are progressing satisfactorily at Burnt and Back Creeks. The diggers are working with renewed spirit, feeling assured of having found new and valuable lead.

C. LEICESTER, M.E.

ADELAIDE, APRIL 26.—The Colonial Parliament was opened by the Governor, Sir Dominic Daly, on the preceding day. Trade continued extremely dull, and the markets are represented as being glutted with every description of goods, while the agricultural interest was also much depressed. Messrs. J. and C. B. Fisher, the extensive cattle-dealers, had failed for the amount of 260,000*l.*; there is, however, every probability of the estate paying 20*l.* in the 12*l.* At the annual meeting of the Burra Burra Company, on April 17, the directors stated that they expected to be able to declare a dividend during the present month, and that shares are still quoted at 110*l.* Copper was steady at 90*l.* per ton. Flour, 10*l.* 15*l.* to 112*l.* per ton. The banks bought bills on London at 60*l.* days' sight at par, and sold bills at 2 per cent. premium. The shipments of wheat for England had thus far been less this year than during the corresponding months of 1861, but it was thought that they would soon be made more freely, as there were full stocks on hand.

We have been requested to correct an error which, in the hurry of business, was committed by the *Adelaide Register and Observer* of April 26. The following paragraphs, by the omission of a heading to the Wheal Ellen notice, appeared as referring to the Cumberland Mine only:

CUMBERLAND MINE.—We learn that the suggestions of Captain Prisk are being carried out, and the last report, under date April 22, states that in driving the end south-east the lode is 3 feet wide, composed of mastic and gossan, and producing stones of green carbonate ore; also that in costeaming 23 fms. west of No. 2 shaft a branch (probably a lode), composed of spar impregnated with yellow ore, has been cut.

WHEEL ELLEN.—The lode in the 30 fm. level, north of Spencer's shaft, has very much improved since reported on last month; it is 8 feet wide, and only one wall showing, carrying throughout black and red oxide, and yellow ore. The bottom part of the end is the best, and appears to be making a leader of solid ore about 1 foot wide. The lode in the tributaries' pitch varies from 6 in. to 2 ft. wide, composed of grey and red oxide of copper, mixed with iron and mastic. The surface works are being vigorously proceeded with. The engine-shaft is being cut down by eight men. Some very fine specimens of red and black oxide ore, from Spencer's shaft, can be seen at the company's office, Stephen's-place.

KAMANTOO COPPER.—A block of copper ore, weighing 12*1/2* cwt., now lies for inspection at the office of Mr. J. F. Ross, broker, Gilbert-place. It forms a portion of a very large block dug out of the Kamantoo Mine, and is very rich, being estimated, as we are informed, to contain 45 per cent. of copper.—*Adelaide Observer*, April 26.

SILVER IN NEW SOUTH WALES.—The *Illawarra Mercury* states that a valuable silver mine has recently been discovered near the Moruya River, about 200 miles south of Sidney. A number of gentlemen, among whom are Mr. T. S. Mott, Mr. R. Want, and Mr. S. Samuel, have associated together for the purpose of developing this mineral, and have obtained a lease of the land on which it was discovered under the Crown Lands Occupation Act. Several assays of the ore have been made, and these have given as the result from 40 to 100 ozs. of silver to the ton of ore; and it is confidently expected, as the mines are deepened, the ore will increase in richness. The mine is found at the junction of the clay-slate and the granitic rocks, the gange consisting of quartz,

AUSTRALIAN MINES.

BURRA BURRA.—Messrs. James Morrison and Co. (London agents for the company) have received the directors' report, presented on April 16, which shows ore raised during the half-year, 4835 tons; and, after paying the forty-seventh dividend (in Dec., 1861), there remained a balance of 12,070*l.* realised and available for dividends on operations closed to Sept., 1861, and the directors hope to devote it to that purpose in this present month (June). In addition to the above balance on closed operations, there is an estimated profit of 12,947*l.* expected from the realisation of produce unsold or but partially accounted for; so that, adding the latter amount, 12,947*l.* to the profits already ascertained, 12,070*l.* there is in all a sum of 25,017*l.* which may be regarded as undivided profit, after making due provision for all liabilities.

KAPUNDA.—The manager at the mines reports that the Feb. ores were 195 tons, of 15 per cent. average produce, equal to 29 tons of pure copper, and the yield for March was 403 tons gross weight, and expected to be of higher produce. The quantity of copper made in March was 49*1/2* tons, the shipments being 34*1/2* tons per Northern Light (being part of the 42 tons last reported as in course of shipment by that vessel), and there remained 30 tons in store waiting freight.

GREAT NORTHERN COPPER.—The local committee state—We have now the pleasure to enclose bills of lading of 98 tons of copper ore, per *Strathallan*, for London, and have further to advise that, by dates from Port Augusta, of April 16, we find there has arrived there since the shipment per *Strathallan* 45 tons, for which we are seeking freight; at present we are in a position to offer it to the *COUNTESS OF FIFE*. Captain Morrison (March 21) reports—Nuccaleena Mine: The ore returns from March 1 you will find as follows, up to present date: 220 bags, average weight 145 lbs. per bag, already sent to Port Augusta, and 239 tons hand already for carting, and can safely say that it will not be below 25 per cent., and are the end of the month will have 200 more. The works on surface are progressing, the men having completed the engine-shaft. The cylinder, fly-wheel, and shaft are also in their places, and the rest going on with all dispatch.—Oratunga Mine: I can give but a brief account of this property, the water not being forked, but from all appearances I am under the impression that the body of ore that has been worked is not the lode, which as yet is to be found; and as the mine has done so well up to present depth I think it well worth while to give it a trial with the small donkey-engine.—Mooro Mine: Having been so busily occupied this month I have not as yet visited the mine, or heard from there, but in my next you shall hear fully.

NORTH RHINE.—Capt. Barkla reports that Cope's engine-shaft is now completed down to 60 fms. below surface, and the shaftmen are engaged in driving the cross-cut west from the above shaft, to cut the main lode in the 60 fm. level, which I expect to cut by end of April or beginning of May next. The stratum of ground that the men have driven through in the bottom of the shaft was excessively hard, so that the men could make but little progress in driving; but I am happy to inform you there is an improvement in the state of the ground within this day or two, and I expect it will still improve as the end comes nearer the lode.

YUDANAMUTANA COPPER.—Martin, Gardecheno, and Co., of Adelaide (April 26), state—Your letter of Feb. 26 reached us on the 15th inst. We advertised for miners and drays on the 16th, and although various tools had to be made, the whole of the drays, together with the stores, &c., were dispatched yesterday to the mines. The drays will return loaded with ore. The miners are already on their way to the company's mines. From this you will perceive that we have pushed matters for the immediate prosecution of the necessary works.

WORTHING.—Within the past month we have been obliged to drop the 18-inch drawing-lift from the 30 fm. level to the bottom of Legg's engine-shaft, below the 43, on account of the water in the 43 south end having increased so much as to overpower the old 8-in. lift. The 18-in. lift is doing well at present, and we have again resumed sinking the shaft. The lode in the 43 south is 3 ft. wide, composed of spar and yellow ore, about 1 ft. of which is good dredge work. The winze in the 23 north is holed to the 43, and we have resumed driving the 43 north on the course of the lode, which is 4 feet wide, of good paying work. The 32 cross-cut has been extended east within the last month 2 fathoms; price for driving, 9*1/2* 10*l.* per fm. I think the lode (Boundary's) will be cut in 2 fathoms more driving. The 23 end south is worth for driving 9*1/2* 10*l.*; lode 3 ft. wide, good work, and will pay for driving. We have a stopet lot in the back of this level, to four men, at 6*1/2* 15*l.* per cubic fathom, which will yield 10 tons clean ore per fathom. Lean's shaft is sunk 17 ft. below the 23, where the lode is 6 in. wide, solid ore, and likely to improve in size. The stones in the back of the 23 still continue to yield some good ore, 5 or 6 tons per fathom. We have two stopes working in these backs, by four men in each, at from 6*1/2* to 7*1/2* per fm. The dressing and all other machinery is in good condition. The smelting department is yielding from 30 to 40 tons regulus per month.

WHEEL ELLEN.—Captain Thomas Prisk and Mr. Hancock report that Squarey's engine-shaft has been proceeded with as vigorously as possible by 16 men. The lode in the end, in the 30 fm. level, north of Spence's shaft, has very much improved; it is 8 ft. wide, and we have only one wall—the eastern, or hanging wall. Part of the lode is composed of mastic, jack, galena, and good stones of rich yellow ore. On the western or footwall side the gossan has again come in; it is 3 ft. wide, strongly stained with copper ore, and we are of the opinion that large quantities of ore will be met with going north, and we advise that this part of the mine be pushed as fast as possible. The lode in the pitch on copper varies from 6 in. to 2 ft. wide, composed of grey and red oxide of copper, mixed with iron and mastic; this place has very much improved during the past month. The surface works are being favourably proceeded with, and the smiths are busily engaged making the ironwork to cramp the slack.—April 25: The lode in the 30 fm. level, north of Spence's shaft, has much improved; the leader of copper referred to is now more than 1*1/2* ft. wide, of solid grey and brown ore; the shoot is about 3 feet high in the end, and is getting larger and better as it dips north.

ENGLISH AND AUSTRALIAN COPPER.—The quantity of coal at Kooringa was 70 tons, at Port Works 150, at Kapunda 134, and about 1440 tons. The number of furnaces at work at Kooringa was three and one refinery, and at Port Adelaide five and one refinery. The smelting operations were proceeding vigorously both at Kooringa and Standard.

PORT PHILLIP AND COLONIAL GOLD.—The quantity of quartz crushed during March was 2375 tons, yielding 1688 ozs. 19 dwt., of gold, including 285 ozs. 7 dwt. of alloy. This gives a total average yield per ton of 18 dwt., 19 grs. The receipts on Clunes account were 2806*l.* 12*l.* 9*l.*; payments, including 150*l.* Melbourne management.

1857, 7*1/2* 4*l.*—profit, 1149*l.* 6*l.* 5*l.* The total expenditure per ton has thus amounted to 12*l.* 11*l.*; this includes, however, 25*l.* quartz roasting and delivering, also purchase of Hinck's basin, T-gudgeons for new cam barrel, rebuilding smith's shop and chimneys, lead coats, &c. We have also been at extra expense on account of deficient supply of water, and in clearing away the accumulation of tailings, &c. In my last letter I mentioned that we had, I considered, reached the lowest point of the year for the present, and such proves to be the case, as the next fortnight's crushing yielded 18 dwt., 3 grs. per ton, and the last 12 dwt., 5 grs., without the addition of any alloy—a portion of this quartz came from the northern end of the eastern and Welcome veins, which have always yielded the best.—Mine: The main shaft has not been sunk any deeper since my last, the whole time having been occupied in fixing the pamps, which will be ready to raise water in a few days.—Machinery: This is all in good order, and the stamp have worked with but little interruption. A remittance of 100*l.* has been received by this mail.

SCOTTISH AUSTRALIAN.—The Cadiangullong Mine: Capt. J. Holman,

who has been engaged to take charge of the mining department, had arrived at the mine, and in his first report, which bears date April 2, after carefully examining the mine and giving a detailed report upon each of the various workings in progress, he gives the following summary:—“From estimates from the heaps of ore at surface, I think there are fully 1000 tons when dressed, about 100 tons of which are from 35 to 45 per cent.; 500 tons 12 to 15 per cent.; and the remainder about 8 per cent. The reserves of ore standing in front of the great stope, to as far east as the winze and adit shaft, will probably yield 1200 to 1300 tons of average ore. There is also available ore ground at and over the adit levels south and east of adit shaft; also in the bottom of the great stope, which is not included in the above. The prospects of the mine are unusually good, the great width and quality of the ore bedding fair to rival the celebrated Springbrook Mine, in South Africa, judging from what I saw of it in 1856 and 1857.” Capt. Holman, in a second report, dated April 16, in which he reports the work done to that date, and the particulars of the work then set, states:—“The drive east of adit shaft is giving a larger quantity than hitherto of native copper, intermixed through the frontonite, and extending from 2 to 3 ft. up from the bottom of the level, valued at 40*l.* per fm. The middle part of the end is chiefly sandy slate, slightly interposed with pieces of red oxide and native copper, whilst in the back of the end a door of frontonite is dipping, the value of which for copper cannot yet be determined. The drive west of adit shaft will yield 4 tons of average ore per fm., with some of an inferior quality. From March 25 to April 5 the quantity of ore raised from the stope is estimated at 40 tons of first and second qualities, averaging about 18 per cent.; this only includes nine working days. Preparations are in course for getting a larger force for carrying on the dressing of copper ore.” The following is an extract from the report of Capt. Christie, who is at the head of the smelting department:—“We are pushing on the excavation for the foundation of the engine-house, and hope to have it completed early next week. The cutting for the culvert and stock is completed; I am preparing stone, bricks, and other materials for the building, and hope to have masons to commence work in a fortnight. The smelting works are fast approaching completion. If we had smelters we might hope to start two furnaces in the course of three weeks or less. . . . We have a great quantity of ore already prepared for smelting. We hope shortly to have a large dressing party on preparing the first and second class ores and smalls. I have two or three parties cutting billet-wood. I am preparing for the putting of an addition to the number of our miners, smelters, and others. Smelters from Wales would arrive in the colony soon after this letter was written. The arrangements for constructing the branch railway, and everything relating to the colliery, are being proceeded with as expeditiously as can be done by Mr. Morehead's utmost efforts. The line is free of engineering difficulties, and the cost will be moderate.”

DUN MOUNTAIN COPPER.—Since last despatches we have shipped per *Plymouth*, for Sydney, 150 tons of chrome ore; 28 tons per *Sir George Pollock*; 320 tons per *Queen of India*, and we are negotiating freight for 800 tons per *Ravensteig*.We expect to forward also 50 tons of copper ore per *Queen of India*; and as there is a

THE SOCIAL CONDITION OF MINERS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—As it is but too well known in Cornwall that the position of the miners is really deplorable, and that Government inspection is absolutely necessary to lessen the evil, I had hoped that long ere this the Editor of the Journal would have published his views upon the subject, instead of permitting one who has laboured hard to show the necessity for improvement—I mean Mr. Childs—to be assailed and called anything but a gentleman. It is all very well for Capt. Charles Thomas, and others in a suitable position, to say that there is excessive morality amongst miners, but will the manager of *Dolcoath*, or anyone else really acquainted with Cornish mining life, be bold enough to state in the *Miners' Journal* that their remarks would be applicable, except in a few isolated instances? Mr. Childs' account is but too true, and by far the greater number of working miners would be ready to confirm his statement. What could be a better proof that Mr. Childs is correct than the remarks of Mr. Honey, of St. Blazey, who says that “after thirty years' experience as a working miner I am prepared, if needs be, to verify the truthfulness of Mr. Childs' many and out-spoken letter on the subject of social and moral improvement. I cannot see a sentence, a line, or a word out of place, whether it refers to the employee or the employer. The marked difference between the comforts of the mining houses and the mine shed, in which the poor miners have to change, is apparent to everyone. It seems evident that Mr. Childs has touched a sore point, and now that Government has made up its mind to take the matter up an attempt is being made to glaze over the horrors of the tailliferous miner's position until the supposed danger is passed, and the Royal Commission has made up its report.

But how is it that Mr. Childs should be the first to bring down upon himself such a torrent of abuse? Why, was not Mr. Henwood attacked when he wrote his description of the “Bal Maiden” in the *Miners' Journal* of Jan. 16, 1858? He admits that there were then some better arranged mines, and that improvement was being made, but that the sexes naturally begets a want of modesty and delicacy, so important in the formation of character; whilst the masculine labour which females are frequently compelled to perform and attend to those domestic duties which should constitute the head of the smelting department:—“We are pushing on the excavation for the foundation of the engine-house, and hope to have it completed early next week. The cutting for the culvert and stock is completed; I am preparing stone, bricks, and other materials for the building, and hope to have masons to commence work in a fortnight. The smelting works are fast approaching completion. If we had smelters we might hope to start two furnaces in the course of three weeks or less. . . . We have a great quantity of ore already prepared for smelting. We hope shortly to have a large dressing party on preparing the first and second class ores and smalls. I have two or three parties cutting billet-wood. I am preparing for the putting of an addition to the number of our miners, smelters, and others. Smelters from Wales would arrive in the colony soon after this letter was written. The arrangements for constructing the branch railway, and everything relating to the colliery, are being proceeded with as expeditiously as can be done by Mr. Morehead's utmost efforts. The line is free of engineering difficulties, and the cost will be moderate.”

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SUPPLEMENT TO THE MINING JOURNAL.

[JUNE 14, 1862]

TUESDAY, JUNE 17, AT ELEVEN O'CLOCK A.M.

IMPORTANT MINE SALE.

GREAT WHEAL ALFRED MINE, one mile from the port of HAYLE, CORNWALL. M. R. JOHN BURGESS is instructed to SELL, BY PUBLIC AUCTION, on TUESDAY, the 17th day of JUNE, at Eleven o'clock in the forenoon, all the hereinmentioned VALUABLE ENGINES and MINING MATERIALS at GREAT WHEAL ALFRED MINE.

Description of Lot.

	Weight: cwt.s. qrs. lbs.
1. 65 in. cylinder PUMPING ENGINE, at Copper House shaft, stroke in cylinder 9 ft., stroke in shaft, 8 ft., first piece of rod, faggoted caps and brasses	—
2. 12 ton BOILER and FITTINGS	—
3. 12 ton BOILER and FITTINGS	—
4. 25 in. cylinder DRAWING ENGINE, and crusher attached	—
5. BOILER and FITTINGS, about 9 tons	—
6. 8 in. cylinder HORIZONTAL ENGINE; attached are the following:—	—
7. BOILER and FITTINGS	—
8. BORING MACHINE	—
9. SCREWING MACHINE	—
10. PUNCHING MACHINE	—
11. 4 in. cylinder ENGINE (incomplete), BOILER about 15 cwt.s.	—
12. Copper House SHEARS, 4 pulleys, 60 ft. legs, 16 in. x 17 in. brass, per lb.	cwt.s. qrs. lbs.
13. Shaft tackle	—
14. 8 armed cat head, deal	—
15. 8 armed capstan at painter's shaft, oak axle, and cast iron centre piece; brass (if any) per lb.	—
16. Shears and 2 pulleys at painter's shaft, 50 to 60 ft. legs; brass per lb.	—
17. 8 armed cat head (in yard), deal axle	—
18. 10 in. capstan rope	47 0 0
19. 150 fms. capstan rope	—
20. Balance bob from the 70 fm. level, 32 ft. oak beam, 19 in. square, strong faggoted straps and pins, and flat thread top staples; brass per lb.	—
21. 9 ft. 15 in. pump, broken	12 2 0
22. 9 ft. 14 in. matching	6 1 14
23. 6 ft. 14 in. matching	11 2 14
24. 9 ft. 14 in. pump	17 0 14
25. 9 ft. 14 in. pump	15 2 4
TIMBER AT PAINTER'S SHAFT.	—
51. 5 pieces of timber	—
52. Sundry pieces of timber	—
53. 5 pieces of timber	—
IN THE COAL YARD.	—
56. 9 ft. 18 in. pump	—
57. 11½ ft. 9 ft. plunger pole	—
58. Stuffing box and gland	—
59. Flat piece of oak	—
FLOORS IN FRONT OF ACCOUNT HOUSE.	—
62. 9 ft. 18 in. pump	20 0 14
63. 9 ft. 21 in. pump and matching	35 3 7
64. 6 ft. 21 in. pump	16 2 14
65. 9 ft. 16 in. pump	24 2 0
66. 12ft. 17in. working barrel	24 2 0
67. 13ft. 18in. working barrel	44 0 0
68. 13ft. 15in. working barrel	26 2 0
69. 13ft. 12in. working barrel	19 2 7
70. 12ft. 12in. working barrel	14 0 0
71. 10 ft. 13 in. sinking windbo	16 1 21
72. 9 ft. 12 in. sinking windbo	18 1 7
73. 8 ft. 17 in. flat bottom windbo	23 1 0
74. 6 ft. 20 in. flat bottom windbo	21 0 21
75. 19 in. doorpieces	41 3 7
76. 19 in. doorpieces	39 2 14
77. 19 in. doorpieces	29 0 2
78. 18 in. doorpieces	24 3 14
79. 12 in. doorpieces	16 3 14
OUTSIDE BLASTING ENGINE.	—
102. 2½ in. 6 ft. cast flanch pump	1 1 0
103. 2½ in. 6 ft. ditto	1 1 7
104. 2½ in. 6 ft. ditto	1 1 0
105. 2½ in. 6 ft. ditto	1 1 7
106. 2½ in. 6 ft. ditto	1 1 0
107. 2½ in. 6 ft. ditto	1 0 7
108. 2½ in. 6 ft. ditto	1 0 14
109. 2½ in. 6 ft. ditto	1 0 0
110. 2½ in. 6 ft. ditto	1 0 7
111. 2½ in. 6 ft. ditto	1 0 14
112. 2½ in. 6 ft. ditto	1 0 7
113. 2½ in. 6 ft. ditto	1 0 0
114. 2½ in. 6 ft. ditto	1 0 7
115. 2½ in. 6 ft. ditto	1 0 14
116. 2½ in. 6 ft. ditto	1 0 14
117. 2½ in. 6 ft. ditto	1 0 21
118. 2½ in. 6 ft. ditto	1 1 7
119. 2½ in. 6 ft. ditto	1 0 21
120. 2½ in. 6 ft. ditto	1 1 0
121. 2½ in. 6 ft. ditto	1 1 0
122. 2½ in. 6 ft. ditto	1 1 7
123. 2½ in. 6 ft. ditto	1 1 7
124. 2½ in. 6 ft. ditto	1 1 0
125. 2½ in. 6 ft. ditto	1 1 0
126. 2½ in. 6 ft. ditto	1 1 0
127. 2½ in. 6 ft. ditto	1 1 7
128. 2½ in. 6 ft. ditto	1 1 7
129. 2½ in. 6 ft. ditto	1 0 14
130. 2½ in. 6 ft. ditto	1 0 14
131. 2½ in. 6 ft. ditto	1 0 14
132. 2½ in. 6 ft. ditto	1 0 7
133. 2½ in. 6 ft. ditto	1 0 14
134. 2½ in. 6 ft. ditto	1 1 7
135. 2½ in. 6 ft. ditto	1 1 7
IN SMITH'S SHOP.	—
169. 40 in. smith's bellows	—
170. 36 in. old bellows	—
171. Smith's anvil	3 0 14
172. ditto	3 0 14
173. ditto	3 8 7
174. Faggoted smith's horse	2 1 21
175. ditto	3 3 7
176. 8 small ditto	0 3 7
177. Ship axle anvil (cast)	5 3 0
178. New skip for 19 in. road	3 3 14
179. Sundry flat iron	2 3 0
180. Wrought scrap iron	15 0 0
181. ditto	8 3 0
182. ditto	1 3 0
183. Faggoted forged crane	0 3 0
184. ditto	0 1 14
185. ditto	0 8 0
186. New skip axles	4 2 0
187. Skip tools, cutters, &c.	1 0 0
188. Cast iron	6 1 0
189. New shaft gig, wrought iron, with 8 wheels, to run on skip road	8 0 14
190. Smith's tongue	8 0 12
191. Bolt tools	6 0 0
192. Brawges, steel punches, and clefts	4 0 0
193. Large bottom anvil	10 2 14
194. Small bolt tools	2 1 21
195. Small tongs	2 8 21
196. Swage anvil to work 20 sizes and shapes, round	—
IN THE IRON HOUSE.	—
225. 1 in. flat iron	2 1 14
226. 3 and 4 in. ditto	5 1 7
227. 1½ in. round iron	1 3 10
228. 1 in. ditto	2 3 0
229. 2 in. beat bar iron	4 3 2
230. 4½ in. square iron	3 3 0
231. 2 in. cast borer steel	2 1 4
232. Hoop iron	2 2 0
233. Old cast-steel borers	4 2 0
BY THE SHOP.	—
236. 4 ft. shears	5 2 14
237. 2½ ft. shaft roll, 20 in. wide	7 0 7
238. 2½ ft. ditto	8 3 7
239. 2½ ft. ditto	4 0 21
240. 2 ft. ditto	5 2 14
241. 1½ ft. ditto	3 3 0
242. Shaft gigs	3 1 21
243. Ditto	3 3 0
244. Ditto	2 0 21
245. Ditto	5 2 21
246. Old kibble	2 2 21
247. Ditto	2 3 14
248. Ditto	2 1 14
249. Ditto	2 3 0
250. Ditto	3 0 14
251. Ditto	3 0 0
252. Ditto	2 3 7
253. Ditto	3 0 7
254. Ditto	2 1 7
255. Ditto	3 1 7
256. Ditto	3 0 0
257. Ditto	4 2 21
258. Ditto	4 1 14
259. Old skips	4 2 0
260. Ditto	2 3 7
261. Ditto	4 1 21
262. Working skips complete	6 3 14
263. Ditto	6 3 14
264. Ditto	6 3 14
265. Old skips, 20 in. wide	6 3 14
266. Ditto	6 3 14
267. Ditto	6 3 14
268. 6 ft. shives	8 0 14
269. 6 ft. ditto	8 0 14
270. 2½ in. bucket rod	5 2 14
271. 2 " ditto	2 0 21
272. 2 " ditto	4 0 21
273. Faggoted loop, 10 ft. long	3 0 14
274. Faggoted lever	5 3 14
275. 4½ ft. cast cranks	7 1 7
276. Old cast-iron	8 2 14
277. Old cast pinion	10 2 14
278. Old east axle	15 3 14
279. Wood tram wagon	—
280. Iron tram wagon complete	—
281. Riddle	—
282. 2 ft. shives	1 1 21
283. Ditto	1 2 0
284. Ditto	1 2 1
285. Ditto	1 2 0
286. Ditto	1 2 7
287. Ditto	1 2 0
288. Ditto	1 2 1
289. Ditto	1 2 0
290. Ditto	1 2 0
291. Ditto	1 2 0
292. Ditto	1 0 14
293. Ditto	2 2 14
294. Ditto	2 2 1
295. Ditto	2 2 1
296. Ditto	2 3 14
297. Ditto	2 2 14
298. Ditto	2 2 1
299. Ditto	1 2 21
300. Ditto	3 0 0
301. Ditto	0 2 21
302. Ditto	3 0 0
303. Ditto	0 2 21
304. Ditto	2 2 1
305. Ditto	3 0 0
306. Ditto	3 0 0
307. Ditto	0 2 21
308. Ditto	0 2 21
309. Ditto	0 2 0
310. Ditto	0 3 7
311. Ditto	0 2 7
312. Ditto	0 3 7
313. Ditto	0 3 0
314. Ditto	0 3 7
315. Ditto	0 2 21
316. Ditto	0 3 0
317. Ditto	0 3 0
318. Ditto	0 3 0
319. 2½ ft. shives, broken	1 3 14
320. 2½ ft. ditto	1 3 0
321. 2 ft. ditto	1 2 21
322. 2 ft. ditto	0 2 21
323. 2 ft. ditto	0 2 21
324. 2 ft. ditto	0 2 21
325. 2 ft. ditto	0 3 0
326. Zinc funnel	—
327. Zinc air pipes	—
328. Clock seating	1 2 7
329. Bucket prong	0 2 21
330. Drop clock	2 2 0
331. Bucket and prong	1 0 14
332. 2 buckets and prong	3 0 7
333. Ditto	0 2 7
334. Small clamps and joints	3 1 21
335. 3 new faggoted clamps and joints	3 1 14
336. 2 new ditto	3 0 14
337. Pick-moulds	3 2 0
338. Faggoted rubbing bar	1 3 7
339. Bucket	—
340. 2 ft. new shaft roll	1 0 7
341. 2 ft. ditto	1 0 14
342. 2 ft. ditto	1 3 7
343. 2 ft. new shaft roll	1 0 7
344. Shaft door	—
345. 2 ft. whim shives	1 3 7
346. 2 ft. faggoted iron pins	1 3 14
347. 2 ft. faggoted iron pins	2 2 21
348. Old scrap iron	3 1 0
349. Old iron plate	8 2 14
350. Flat iron	4 2 0
351. Shaft rolls	1 2 0
352. Faggoted iron pins	4 2 21
3	